

All Energy 08

22 May 2008

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The importance of CCS

- Under business as usual, global emissions from the energy sector will rise by 57% by 2030.
- Global primary energy needs are predicted to grow by 55% between 2005 and 2030. Coal demand is predicted to increase by over 70% in real terms in response.
- CCS technology has the potential to reduce CO₂ emissions from fossil fuel power stations by as much as 90%.
- Could contribute up to 28% of global CO₂ mitigation by 2050.
- Stern Review – without CCS marginal abatement costs rise from \$25 to \$43.

Rationale for demonstration project

- Acknowledgement of role CCS could play in achieving twin objectives of tackling climate change and ensuring energy security
- Recognition that the next step in developing CCS is testing full chain on commercial-scale power station
- CCS has UK and international relevance
- Aid development of effective regulatory framework

Objectives of UK demonstration

- 2 key objectives –
 - Deliver successful demonstration of full chain of CCS technologies on a power plant at commercial scale
 - Demonstrate technology that is relevant and transferable to key global markets

What UK Government is funding

- One project – post-combustion capture on commercial-scale (at least 300MW) coal power plant
- Post combustion – tackle global emissions, retrofitting can reduce emissions already locked-in
- Carbon dioxide stored offshore
- Operational by 2014
- Will provide up to 100% of capital and operating costs

Rationale for using a competition

- Significant investment by UK Government
- Competition best way to get value for money
- Aware of several potential projects – competition for funds should deliver better value projects and greater innovation

Timescales for competition

- Pre-qualifying phase ended March 31st
- Received 9 applications
- Enter competitive phase in May 08
- Aim to name preferred bidder by May/June 09

Pre-qualifying phase

- Competition being run in accordance with EU procurement rules
- Pre-qualification questionnaire published in Nov 07 – deadline of 31st March 08
- Applicants assessed on technical capability and capacity, and financial robustness – NOT their project

Competition phase

- 3-5 Bidders invited to competition phase
- Series of staged discussions with each Bidder addressing a number of complex issues such as
 - design, costs, supply chain management, financing, risks, insurance
- Likely to be a couple of iterations
- Will help refine final invitation to submit bids

Knowledge Transfer

- Key element of UK demonstration project is knowledge transfer
- Need to make most effective use of knowledge and experience gained to feed learning into later demonstrations and the next generation of CCS projects
- Aim is for project to be part of EU Demonstration Programme and see international element of EU programme as key
- Will also explore other means of ensuring knowledge is widely exploited

Regulatory Framework

- Most CCS issues covered under existing regulation
- Gap in relation to storage of carbon dioxide
- Energy Bill sets out overarching framework
- Will be consulting on detailed licensing arrangements shortly

Key Energy Bill issues

- Asserts UK's rights to store CO₂ offshore (to 200 nautical miles) and vests those rights in the Crown.
- Comprehensive legal basis for licensing CO₂ storage
- Sets out the sanctions for breaches of licences.
- Sets out public information obligations.
- Provides for transfer to state of long-term stewardship.
- Extends a number of offshore provisions to CO₂ storage:
 - Decommissioning of facilities
 - Safety zones
- Can be extended to include EOR

EU Directive

- Criteria for site selection, risk assessment and monitoring
- Permits with operational, closure and post-closure obligations
- Transfer of long-term liabilities to State
- Open access, transboundary cooperation
- Amendments for onshore storage, shipping, and carbon capture readiness
- Reporting obligations for Member States

UK view on Storage Directive

- Support Directive overall
- Key areas -
 - Site selection
 - Support evidence based approach but some inconsistencies with OSPAR
 - Storage permits
 - Support content, oppose review clause
 - Transfer of liabilities
 - Support approach, but don't need security in place too early
- Need to ensure fits with Better Regulation agenda

EU Agenda

- Commission ambition of up to 12 demonstration projects operational by 2015
- Climate and Energy Package published January 08 -
 - DG ENV Proposal for a Directive on the geological storage of carbon dioxide
 - DG TREN Communication “Supporting Early Demonstration of Sustainable Power Generation from Fossil Fuels”
 - DG ENV Proposal for third phase of the EU Emissions Trading Scheme, which includes CCS
 - DG RTD Strategic Energy Technology (SET) Plan, which covers CCS technologies
 - DG COMP guidelines on state aid for environmental protection, which state how CCS will be assessed.

Other HMG activity

- Supporting R&D –
 - Technology Strategy Board – 16 projects (£11m)
 - ETI – looking to support CAT projects
 - HFCCAT – 2nd call announced in Budget
- Huge international agenda
 - NZEC, G8, CDM, EU demonstration projects
 - Capacity building

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